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Roads Analysis Report

Melvin Butte Vegetation Management Project

Sisters Ranger District Deschutes National Forest Donald Walker – Road Manager



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The following is the Road Analysis process utilized by the Sisters Ranger District interdisciplinary team (IDT) to assess resource and road conditions, and to develop a set of recommendations to inform the decision-making process for the Melvin Butte Vegetation Management Project Environmental Assessment (EA). The Road Analysis itself is not a decision document. The information in the Roads Analysis would be applied for site specific analysis following the requirements of the National Environmental Policy Act (NEPA).

Background and Introduction

On January 12, 2001, the Forest Service adopted the final National Forest System Road Management Policy. The final rule removes the emphasis on transportation development and adds a requirement for science-based transportation analysis, consistent with changes in public demands and use of National Forest resources. The final rule is intended to help ensure construction, reconstruction, and maintenance of roads minimize adverse environmental impacts; unneeded roads are decommissioned and restoration of ecological processes are initiated; and additions to the National Forest System road network are only those deemed essential for forest resource management and use.

Roads analysis is a six-step process. The steps are designed to be sequential with the understanding the process may require feedback and iteration among steps over time as an analysis develops. The amount of time and effort spent on each step differs by project based on specific situations and available information. The six steps in the roads analysis process are:

- Setting up the analysis
- 2. Describing the situation
- 3. Identifying the issues
- Assessing the benefits, problems, and risks
- 5. Describing opportunities and setting priorities
- 6. Reporting

STEP 1: SETTING UP THE ANALYSIS

Objectives of the Analysis

The objective of roads analysis is to provide decision makers with the information necessary for developing road systems that are safe and responsive to public and agency needs and desires, are affordable and efficiently managed, have minimal negative ecological effects on the land, and are in balance with available funding for needed management actions.

This roads analysis was completed based on an area scale, instead of at the watershed scale, because of the immediate need to address roads within the project area in conjunction with the current environmental impact statement.

The main documents guiding this analysis are:

- Land and Resource Management Plan Deschutes National Forest 1990
- Sky Roads Analysis 2009

The main objectives of this road analysis are:

- Identify the need for a minimal transportation system to best serve the area.
- Balance the need for access; reduce road densities, and road mileage.

Identification of the Interdisciplinary Team

The following district personnel were chosen by Sisters District Ranger, Kristie Miller, to participate in the Melvin Butte Vegetation Management Project Environmental Assessment;

Name

Bill Munro –Team Leader
Michael Keown – NEPA Coordinator
Roberta Rankin-Bates – Sulviculture
Monty Gregg – Wildlife
Amy Racki – Recreation
Cari Press – Hydrologist
Nate Dachtler – Fisheries
Maret Pajutee – Botany/Ecology
Jinny Reed – Fuels
Lindsey Kiesz – GIS
Ingrid Anderson – Presale Administration
Steve Orange – Sales Administration
Terry Craigg – Soils
Don Walker - Transportation

Required Information

The required information for this analysis was an overall project boundary, a map of the project boundary area, Unit areas, and the road system within the project boundary. It was determined by the ID Team the roads to be reviewed were within the project boundary.

Plan for Analysis.

The plan for the road analysis was the following;

- 1. An IDT meeting was conducted on February 20, 2014. The team was presented with a map of roads within the project boundary from the Sky Roads Analysis. Additional information was refined to include roads that were not in the original analysis.
- 2. During the IDT meeting on April 3, 2014, a final configuration of closure, decommission and open roads were agreed upon.
- 3. Don Walker, Transportation, will develop a roads analysis report including maps and tables of existing roads in relation to the units, and recommendation input from the team.

STEP 2: DESCRIBING THE SITUATION

Existing Roads

The overall project analysis area is located on the Deschutes National Forest, Sisters Ranger District approximately 9 miles southwest of Sisters, Oregon. The project area is approximately 5,375 acres (8.40 miles²). The road system is on flat to steep mountainous terrain with areas of 30% slopes or greater. The system currently serves several trailheads and campsites including Upper Three Creeks Snow Park. The roads were created starting in the 1960s for the purposes of hauling log products to the timber mills. The transportation system currently serves recreation activity including hunting, snowmobiles, and Nordic activities.

Most of the roads are categorized as Maintenance Level 2 (use with high clearance vehicles) in which some have been overgrown and difficult to drive due to the lack of maintenance. The current trend in the Forest Service is to provide maintenance to Maintenance Level 3 and above roads (passenger car use) leaving most Maintenance Level 2 roads without any sort of road maintenance for years. The current open road density within the project area (Forest Service Roads per Forest Service Land) is 5.86 miles/miles^{2.} The numbers of miles within and around the project area are:

Maintenance Level 4 4.55 miles
Maintenance Level 3 0.26 miles
Maintenance Level 2 44.39 miles
Maintenance Level 1 3.31 miles
State Roads 0.0 miles
Private Roads 0.0 miles
Total 52.51 miles

There are numerous user defined roads within and adjacent to the project area. The user defined roads are known to Forest Service disciplines but are undocumented or mapped for this report.

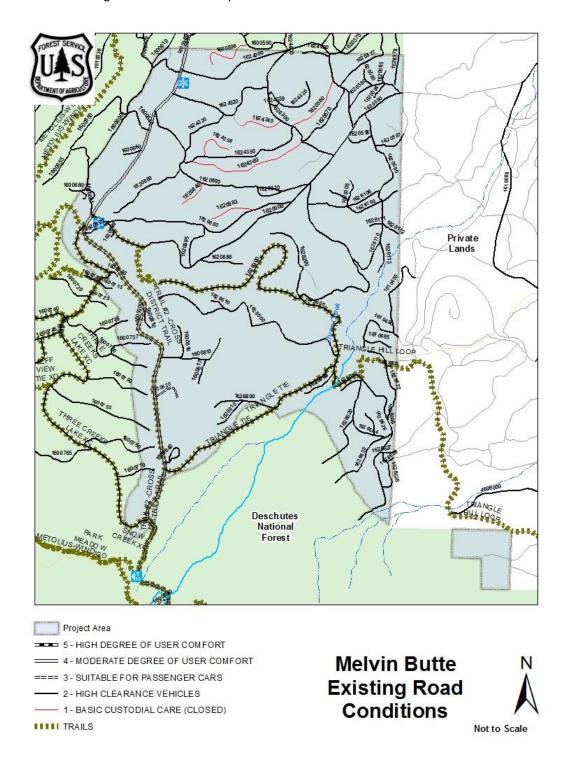
Exhibit 1 – Existing Road Condition Listing within the Melvin Butte Vegetation Management Project Boundary

Roa	Road Operational Maintenance Level		Length in Miles
		4 - MODERATE DEGREE OF USER	4.55
160	0000	COMFORT	1.55
160	0596	1 - BASIC CUSTODIAL CARE (CLOSED)	0.37
160	0600	2 - HIGH CLEARANCE VEHICLES	0.33
160	0600	2 - HIGH CLEARANCE VEHICLES	1.19
160	0610	2 - HIGH CLEARANCE VEHICLES	0.17
160	0640	2 - HIGH CLEARANCE VEHICLES	0.28
160	0660	2 - HIGH CLEARANCE VEHICLES	0.16
160	0880	2 - HIGH CLEARANCE VEHICLES	0.05
160	0681	2 - HIGH CLEARANCE VEHICLES	0.10
160	0700	2 - HIGH CLEARANCE VEHICLES	0.96
160	0705	2 - HIGH CLEARANCE VEHICLES	0.09
160	0715	2 - HIGH CLEARANCE VEHICLES	0.14

Road	Operational Maintenance Level	Length in Miles
1600730	•	0.11
	2 - HIGH CLEARANCE VEHICLES	0.11
1600737		0.25
1600750		0.15
1600755	2 - HIGH CLEARANCE VEHICLES	0.14
	2 - HIGH CLEARANCE VEHICLES	0.14
1600770		0.11
	2 - HIGH CLEARANCE VEHICLES	0.17
1600815		0.63
	2 - HIGH CLEARANCE VEHICLES	0.30
1600817	2 - HIGH CLEARANCE VEHICLES	0.21
1600820		0.26
1600840	2 - HIGH CLEARANCE VEHICLES	0.36
	2 - HIGH CLEARANCE VEHICLES	0.47
1610480	2 - HIGH CLEARANCE VEHICLES	0.48
1610485	2 - HIGH CLEARANCE VEHICLES	0.24
1620000	2 - HIGH CLEARANCE VEHICLES	3.69
1620375	2 - HIGH CLEARANCE VEHICLES	0.03
1620377	2 - HIGH CLEARANCE VEHICLES	0.46
1620378	2 - HIGH CLEARANCE VEHICLES	0.25
1620560	1 - BASIC CUSTODIAL CARE (CLOSED)	0.56
1620570	2 - HIGH CLEARANCE VEHICLES	0.60
1620580	2 - HIGH CLEARANCE VEHICLES	0.55
1620583	2 - HIGH CLEARANCE VEHICLES	0.16
1620584	2 - HIGH CLEARANCE VEHICLES	0.15
1620585	2 - HIGH CLEARANCE VEHICLES	0.12
1620590	2 - HIGH CLEARANCE VEHICLES	0.53
1620595	2 - HIGH CLEARANCE VEHICLES	0.87
1620596	2 - HIGH CLEARANCE VEHICLES	0.25
1620597	2 - HIGH CLEARANCE VEHICLES	0.25
1620800	2 - HIGH CLEARANCE VEHICLES	1.74
1620810	2 - HIGH CLEARANCE VEHICLES	0.26
1620840	1 - BASIC CUSTODIAL CARE (CLOSED)	0.26
1620850	2 - HIGH CLEARANCE VEHICLES	0.70
1620880	2 - HIGH CLEARANCE VEHICLES	1.67
1620883	1 - BASIC CUSTODIAL CARE (CLOSED)	0.38
1620885	2 - HIGH CLEARANCE VEHICLES	0.41
1620886	2 - HIGH CLEARANCE VEHICLES	0.37
1620889	2 - HIGH CLEARANCE VEHICLES	0.06
1620890	2 - HIGH CLEARANCE VEHICLES	0.23
1624000	2 - HIGH CLEARANCE VEHICLES	0.94

Road	Operational Maintenance Level	Length in Miles
1624300	2 - HIGH CLEARANCE VEHICLES	1.25
1624320		0.41
1624320	2 - HIGH CLEARANCE VEHICLES	0.61
1624325	2 - HIGH CLEARANCE VEHICLES	0.50
1624330	2 - HIGH CLEARANCE VEHICLES	0.59
1624339		0.10
1624340	1 - BASIC CUSTODIAL CARE (CLOSED)	0.38
1624350	2 - HIGH CLEARANCE VEHICLES	0.90
1624350	2 - HIGH CLEARANCE VEHICLES	0.20
1624358		0.35
1624360	1 - BASIC CUSTODIAL CARE (CLOSED)	1.01
1624990	2 - HIGH CLEARANCE VEHICLES	0.18
1628000	2 - HIGH CLEARANCE VEHICLES	2.82
1628000		1.14
1628100	2 - HIGH CLEARANCE VEHICLES	0.83
1628105	2 - HIGH CLEARANCE VEHICLES	0.24
1628106	2 - HIGH CLEARANCE VEHICLES	0.31
	2 - HIGH CLEARANCE VEHICLES	0.18
1628110	2 - HIGH CLEARANCE VEHICLES	0.75
1628111	2 - HIGH CLEARANCE VEHICLES	0.11
1628112	2 - HIGH CLEARANCE VEHICLES	0.16
1628113	2 - HIGH CLEARANCE VEHICLES	0.28
1628200	2 - HIGH CLEARANCE VEHICLES	0.74
1628300	2 - HIGH CLEARANCE VEHICLES	2.10
1628500	2 - HIGH CLEARANCE VEHICLES	1.08
1628500	2 - HIGH CLEARANCE VEHICLES	0.88
1628510	2 - HIGH CLEARANCE VEHICLES	0.14
1628600	2 - HIGH CLEARANCE VEHICLES	1.82
1628605	2 - HIGH CLEARANCE VEHICLES	0.32
1628619	2 - HIGH CLEARANCE VEHICLES	0.20
1628620	2 - HIGH CLEARANCE VEHICLES	0.72
1628621	2 - HIGH CLEARANCE VEHICLES	0.05
1628622	2 - HIGH CLEARANCE VEHICLES	0.66
1628624	2 - HIGH CLEARANCE VEHICLES	0.34
1628625	2 - HIGH CLEARANCE VEHICLES	0.57
1628626	2 - HIGH CLEARANCE VEHICLES	0.21
1628627	2 - HIGH CLEARANCE VEHICLES	0.12
1628628	2 - HIGH CLEARANCE VEHICLES	0.34
1628629	2 - HIGH CLEARANCE VEHICLES	0.06
1628800	2 - HIGH CLEARANCE VEHICLES	0.53
1628810	2 - HIGH CLEARANCE VEHICLES	0.30

Exhibit 2 - Existing Road Condition Map



STEP 3: IDENTIFYING ISSUES

During the roads analysis meeting, the interdisciplinary team goal was to reduce the number and mileages of road in the project area and yet maintain a minimal transportation system to protect key identifying issues. It was decided the team would review the roads within the project boundary. The definition of "review" within this roads analysis is to review the roads associated with the Sky Roads Analysis (2008) and to verify if the recommendations are still concurrent with real time conditions. As mentioned before, part of the analysis is to maintain a minimal transportation system to protect key identifying issues. The key identifying issues were;

- 1. To reduce the road densities within the project area pursuant to the guideline of 2.5 miles/miles² (Mule Deer Winter Range)
- 2. To reduce the number of redundant road systems in areas that can still be serviced by roads in close approximation.
- 3. Access for Wildland Firefighters, Forest Service Administrators, and the public for protection/management of the land and recreation.

STEP 4: ASSESSING BENEFITS, PROBLEMS, AND RISKS

Benefits:

The current benefits of the transportation system are;

- Providing access to the recreating public to the southwest section of the Sisters Ranger District. Access for hiking, horseback riding, ATV, and hunting opportunities are throughout this area. With Travel Management and the use of Motor Vehicle Use Maps in force the need for legal access is important.
- Providing access to Forest Service personnel is important in the management of public lands.

Problems:

The current problems of the transportation system are;

 Due to the current budget allocation for transportation, many of the less traveled roads do not receive the appropriate maintenance. Some roads have had no maintenance for five or ten years. Maintenance includes grading roads, cleaning ditches, cleaning out culverts, and brushing out the travel lanes.

Risk:

The current risks of the transportation system are:

 With the problems of deferred maintenance, the risk of erosion and sediment build up increases within the road prism. This would increase the risk of road washout making the road unsuitable for vehicle use. If an incident occurs, the Forest Service takes on a reactive approach instead of a proactive approach to maintaining the roads.

STEP 5: OPPORTUNITIES AND PRIORITIES

Opportunities:

The opportunities we have with this project are;

1. To decrease the open road densities to the standards set forth in the Deschutes National Forest Land Management Plan. The Deschutes National Forest Land Management Plans – Transportation Section TS-12 states "Some management areas include open road densities guidelines. If not stated in a specific management area direction, the deer summer range guideline of 2.5 miles per square mile, as an average over the entire implementation unit, is assumed. Guideline densities will be used as thresholds for a further evaluation and will not serve as a basis for assessing conformance with the Forest Plan."

To decrease the miles of roads within the transportation system with decommissioning roads. The fewer miles of roads, the less the Forest Service needs to spend on routine maintenance and emergency situations such as blown out roads or clearing roads to due windblown trees.

Priorities:

The priorities within the transportation system are;

- To provide access for public and land management activities with a minimal and affordable system.
- 2. To decrease road densities to the desirable guidelines set forth in the Deschutes National Forest Land Management Plan.

STEP 6: REPORTING

The Interdisciplinary Team reviewed the road system within the project boundary area of Melvin Butte with the Sky Roads Analysis (2008). The team verified the recommendations with the previously mentioned roads analysis and concurred with the analysis with two exceptions;

- 1. Forest Road 1620378 Extending the existing open road by .03 miles to connect to Forest Road 1620580. No construction is required.
- Forest Road 1610480 Changing the recommended status 0.48 miles from Level 2 to Decommission. With recommendations under previous roads analysis this would have isolated the road with no legal connection points.

The pending change to the overall open road mileage within the project boundary decreased from 49.2 miles to 38.36 miles. The open road density in the project area decreased by 1.30 miles/miles² from 5.86 to 4.56 miles/miles².

Report Update September 21, 2014

The Pole Creek Fire, 2012, and its effects created increased water drainage in the area due to the lack of vegetation to slow water flow across the landscape. Part of this effect was increased drainage flow paralleling Forest Road 1600700 and eventually flowing onto Forest Road 16. This caused a large amount (volume unknown) of debris onto the pave road. To alleviate this problem, a large culvert was installed at the intersection of Forest Roads 16 and 1600700. This protected a Maintenance Level 4 road from erosion and damage. It is also important to note this road services many campgrounds and trailheads in the Three Creek area. It was discovered this flow affected some roads within the Melvin Butte Vegetation Management Project area with erosion and scouring to the point the roads were unusable to motorized traffic. After several field visits and discussions with fisheries, hydrologist and wildlife it was determined this scenario was an ephemeral stream. It was also determined the roads affected by this scenario would be best served decommissioned and would be part of the recommended actions for Alternatives 2 and 3 of the Melvin Butte Vegetation Management Project. Total open roads recommendations for this project would change from 38.36 to 37.00 miles. The amended information is presented in an Italic format within the tables.

Highlights of the changes are:

- Proposed Level 2 roads remain the same
- Proposed Level 1 roads changes from 6.45 to 5.85 miles
- Proposed decommission roads changes from 7.11 to 7.71 miles
- Road density changes from 4.56 to 4.40 miles/miles²

Report Update August 2015

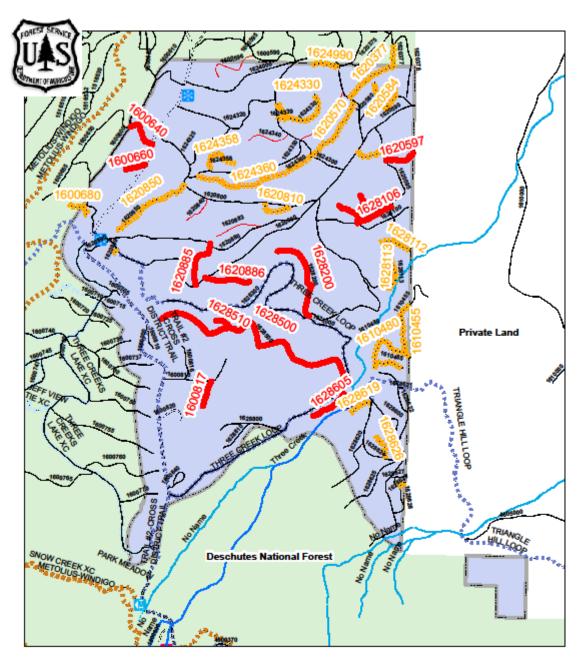
In June, 2015, Melvin Butte Vegetation Management Project was reviewed by the Deschutes National Forest NEPA (National Environmental Policy Act 1970) team. As a result of this review, Forest Road 1620378, will not be reflected in this Roads Analysis or The Melvin Butte Vegetation Management Project Environmental Assessment. It was the determination of the team that connectivity of Forest Road 1620378 was due to a mapping error since on the ground verification concluded that the road does connect to Forest Road 1620580. Forest Road 1620580 will not be assessed with this roads analysis.

Exhibit 3 - Proposed Recommendations

Proposed Open			
Road	Operational Maintenance Level	Objective Maintenance Level	Length in Miles
1620378	2 - HIGH CLEARANCE VEHICLES	2 - HIGH CLEARANCE VEHICLES	0.03
		Total	0.03
Proposed Closed			
Road	Operational Maintenance Level	Objective Maintenance Level	Length in Miles
1600640	2 - HIGH CLEARANCE VEHICLES	2 - HIGH CLEARANCE VEHICLES	0.28
1600660	2 - HIGH CLEARANCE VEHICLES	1 - BASIC CUSTODIAL CARE (CLOSED)	0.16
1600817	2 - HIGH CLEARANCE VEHICLES	1 - BASIC CUSTODIAL CARE (CLOSED)	0.21
1620570	2 - HIGH CLEARANCE VEHICLES	2 - HIGH CLEARANCE VEHICLES	0.60
1620597	2 - HIGH CLEARANCE VEHICLES	2 - HIGH CLEARANCE VEHICLES	0.25
1620885	2 - HIGH CLEARANCE VEHICLES	2 - HIGH CLEARANCE VEHICLES	0.41
1620886	2 - HIGH CLEARANCE VEHICLES	1 - BASIC CUSTODIAL CARE (CLOSED)	0.37
1628105	2 - HIGH CLEARANCE VEHICLES	2 - HIGH CLEARANCE VEHICLES	0.24
1628106	2 - HIGH CLEARANCE VEHICLES	2 - HIGH CLEARANCE VEHICLES	0.31
1628107	2 - HIGH CLEARANCE VEHICLES	1 - BASIC CUSTODIAL CARE (CLOSED)	0.18
1628200	2 - HIGH CLEARANCE VEHICLES	1 - BASIC CUSTODIAL CARE (CLOSED)	0.74
1628500	2 - HIGH CLEARANCE VEHICLES	2 - HIGH CLEARANCE VEHICLES	1.08
1628500	2 - HIGH CLEARANCE VEHICLES	2 - HIGH CLEARANCE VEHICLES	0.88
1628510	2 - HIGH CLEARANCE VEHICLES	1 - BASIC CUSTODIAL CARE (CLOSED)	0.14
1628605	2 - HIGH CLEARANCE VEHICLES	2 - HIGH CLEARANCE VEHICLES	0.32
1600640	2 - HIGH CLEARANCE VEHICLES	2 - HIGH CLEARANCE VEHICLES	0.28
		Total	5.85

Proposed Decommissioned			
Road	Operational Maintenance Level	Objective Maintenance Level	Length in Miles
1600680	2 - HIGH CLEARANCE VEHICLES	1 - BASIC CUSTODIAL CARE (CLOSED)	0.16
1600681	2 - HIGH CLEARANCE VEHICLES	1 - BASIC CUSTODIAL CARE (CLOSED)	0.10
1610455	2 - HIGH CLEARANCE VEHICLES	1 - BASIC CUSTODIAL CARE (CLOSED)	0.47
1610480	2 - HIGH CLEARANCE VEHICLES	2 - HIGH CLEARANCE VEHICLES	0.48
1610485	2 - HIGH CLEARANCE VEHICLES	1 - BASIC CUSTODIAL CARE (CLOSED)	0.24
1620377	2 - HIGH CLEARANCE VEHICLES	2 - HIGH CLEARANCE VEHICLES	0.65
1620570	2 - HIGH CLEARANCE VEHICLES	2 - HIGH CLEARANCE VEHICLES	0.60
1620583	2 - HIGH CLEARANCE VEHICLES	2 - HIGH CLEARANCE VEHICLES	0.16
1620584	2 - HIGH CLEARANCE VEHICLES	2 - HIGH CLEARANCE VEHICLES	0.15
1620585	2 - HIGH CLEARANCE VEHICLES	2 - HIGH CLEARANCE VEHICLES	0.12
1620596	2 - HIGH CLEARANCE VEHICLES	2 - HIGH CLEARANCE VEHICLES	0.25
1620810	2 - HIGH CLEARANCE VEHICLES	2 - HIGH CLEARANCE VEHICLES	0.26
1620850	2 - HIGH CLEARANCE VEHICLES	2 - HIGH CLEARANCE VEHICLES	0.70
1620889	2 - HIGH CLEARANCE VEHICLES	1 - BASIC CUSTODIAL CARE (CLOSED)	0.06
1624330	2 - HIGH CLEARANCE VEHICLES	2 - HIGH CLEARANCE VEHICLES	0.59
1624339	2 - HIGH CLEARANCE VEHICLES 1 - BASIC CUSTODIAL CARE	1 - BASIC CUSTODIAL CARE (CLOSED)	0.10
1624358	(CLOSED) 1 - BASIC CUSTODIAL CARE	1 - BASIC CUSTODIAL CARE (CLOSED)	0.35
1624360	(CLOSED)	1 - BASIC CUSTODIAL CARE (CLOSED)	1.01
1624990	2 - HIGH CLEARANCE VEHICLES	1 - BASIC CUSTODIAL CARE (CLOSED)	0.24
1628111	2 - HIGH CLEARANCE VEHICLES	2 - HIGH CLEARANCE VEHICLES	0.11
1628112	2 - HIGH CLEARANCE VEHICLES	2 - HIGH CLEARANCE VEHICLES	0.16
1628113	2 - HIGH CLEARANCE VEHICLES	2 - HIGH CLEARANCE VEHICLES	0.28
1628619	2 - HIGH CLEARANCE VEHICLES	1 - BASIC CUSTODIAL CARE (CLOSED)	0.20
1628626	2 - HIGH CLEARANCE VEHICLES	1 - BASIC CUSTODIAL CARE (CLOSED)	0.21
1628629	2 - HIGH CLEARANCE VEHICLES	1 - BASIC CUSTODIAL CARE (CLOSED)	0.06
		Total	7.71

Exhibit 4 – Road Recommendation Map





Route Miles, Stream Crossings, and Routes in RHCAs	Existing Condition	Alternatives 2 & 3	Amount of Change
Project Acres	5375	5375	0
Project Acres Open to Motorized Cross-Country Travel	0	0	0
Grand Total Motorized Route Miles:	52.51	44.80	-7.71
1. Total Miles of Roads	52.51	44.80	-7.71
a. Miles designated as open yearlong	47.48	36.17	-11.31
b. Miles designated as open seasonally	1.72	0.83	-0.89
c. Miles designated as closed yearlong (ML 1)	3.31	7.80	4.49
2. Total Miles of Motorized Trails	0	0	0
a. Miles of designated roads open year round for use by OHVs	42.66	31.97	-10.69
b. Miles of designated roads open seasonally for use by OHVs	1.72	0.83	-0.89
c. Miles of trail available for use by OHVs <50 in wide	0	0	0
d. Miles of trail available for use by OHVs >50in wide	0	0	0
e. Miles of trail designated for motorcycle use	0	0	0
3. Total Miles of Routes in RHCAs	0.35	0.22	-0.13
a. Total miles of designated OHV routes in RHCA	0	0	0
b. Total miles of designated open roads in RHCA	0.35	0.22	-0.13
c. Total miles of designated closed OHV trails in RHCAs	0	0	0
d. Total miles of designated closed roads in RHCAs (ML 1)	0	0.08	0.08
4. Total Stream Crossings by Designated Route	1	1	0
a. Total number of open OHV trail stream crossings	0	0	0
b. Total number of open road stream crossings	1	1	0
c. Total number of closed OHV trail system crossings	0	0	0
d. Total number of closed road (ML1) stream crossings	0	0	0
5. Total Miles of Designated Routes Available to OHVs	44.38	32.80	-11.58